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A New Species of Soil Mite, *Malaconothrus japonicus*, from Central Japan (Cryptostigmata ; Malaconothridae)

With 6 Text-figures

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(Communicated by K. Takewaki)

Abstract *Malaconothrus japonicus* spec. nov. of the family Malaconothridae (Acari; Cryptostigmata) is described from Mt. Haruna, Central Japan. The species is distinguishable from the known species of the genus by the long lamellar setae; the notogastral setae c_p situated rather inside; the setae ps_1 strongly curved; the epimeral setae *3b* located on, or very close to, *apo. 3*; 6 pairs of genital setae, etc.

As far as I know, 15 species belonging to the genus *Malaconothrus* have been described to date. Knülle (1957) listed 10 species, of which *M. crinitus* (Berlese, 1908) was moved later by Hammen (1959) to the genus *Trimalaconothrus.* Hammer (1958) described 5 additional species from Argentine and Bolivia and Balogh (1962) 1 species from Madagascar. In the vicinity of Lake Haruna, Central Japan, I found an unknown *Malaconothrus*-species from dead twigs on the floor of the decidious forest. This is described below as a new species.

Malaconothrus japonicus Aoki, spec. nov.

Material examined. Holotype (NSM-AC-P 52): Gumma Prefecture, near Lake Haruna, Mt. Sôma, from dead twigs on the floor of a *Quercus-Alnus*-forest. 9-XI-1965. J. Aoki; Paratypes (13 exs.): the same data as the holotype. The type specimens are deposited in National Science Museum, Tokyo.

Measurement. Length: 500(518)530 μ; Width: 245(266)280 μ.

Prodorsum. The lateral projection of propodosoma between legs I and II well marked, forming a short beak-like tip (Fig. 4). The lateral margin constricted on the posterior part where a small, but distinct incision is found. Rostrum smoothly arched in dorsal view; in the case of the specimen (Fig. 4) in which the prodorsum inclined downward it appears to have somewhat flattend anterior margin. The lateral ridges protrude off the lamellar setae, being connected anteriorly by an arched, translamella-like ridge and posteriorly by a wavy transverse ridge which is most distinct on the median part; another short longitudinal ridge found just outside the exobothridial seta on each side. Lengths of rostral, lamellar, and interlamellar setae, measured on a crushed specimen, are as follows: *ro* (5.7 μ), *la* (7.0–7.3 μ) and *in* (7.3–7.7 μ); the lamellar setae extend beyond the tip of rostrum and seemingly somewhat thinner than the rostral as well as the interlamellar setae.

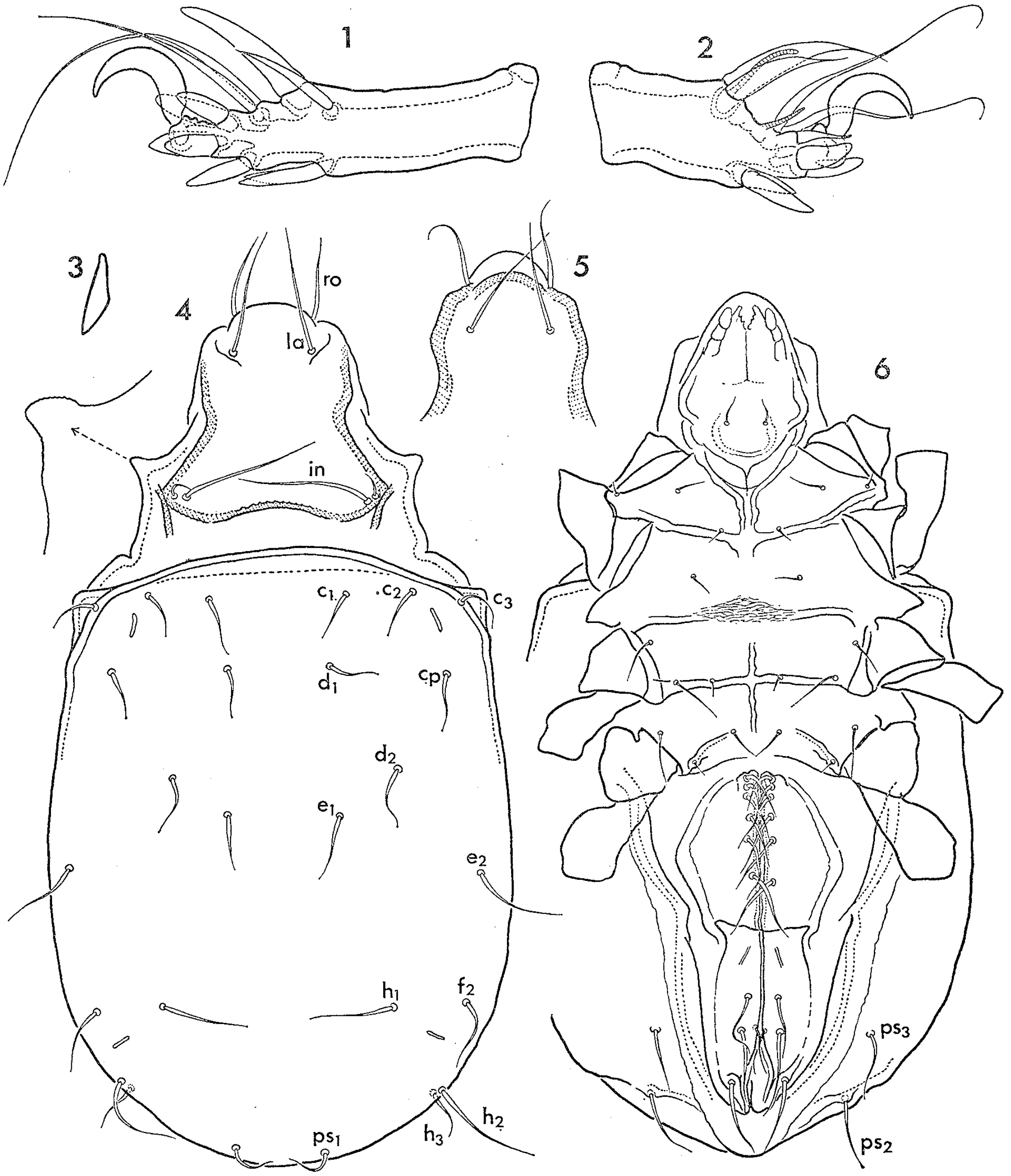

Fig. 1–6. *Malaconothrus japonicus* spec. nov. 1. Tarsus of leg IV (paraxial). 2. Tarsus of leg I (antiaxial). 3. Lyrifissure *ia* in lateral view. 4. Dorsal aspect of body (prodorsum somewhat inclined downward). 5. Anterior portion of prodorsum in ordinary position. 6. Ventral aspect of body.

Notogaster. The lateral margin of notogaster gently curved. The anterior margin weakly convex and distinctly bordered. The humeral corner on each side forms a right angle. Notogastral setae rather short, with fine tips and somewhat swollen at their basal parts; e_2, h_1 and h_2 appreciably longer than the remaining setae. The most posterior pair of setae, ps_1, strongly curved inward. The setae c_1, c_2 and c_3 inserted on nearly the same transverse plane; the same is the case in d_1 and c_p as well as h_1 and f_2; d_1 situated twice the distance from e_1 as from c_1; c_p located not marginally, but fairly distant from the lateral margin, *i.e.* more inside than c_3. Lyrifissure *ia* aligned longitudinally, being situated a little behind the line c_2–c_3; in the lateral aspect of the animal it is observed as an elongate, triangular slit (Fig. 3); *ip* aligned transversely or obliquely, being located (in dorsal aspect) nearly in the central point of the triangle $h_1 \cdot f_2 \cdot h_2$.

Ano-genital region. Ano-adanal aperture longer than genital one. Each adanal plate provided with 3 long setae (mostly 4.3–4.7 μ) and a lyrifissure (*iad*) anteriorly. A pair of thin anal setae, 3 μ long, are found nearly at the level of insertions for ad_2. Genital aperture nearly pentagonal; each plate provided with 6 (occasionally 7) long setae, among which the longest attain to 6 μ; g_1 and g_2 most widely spaced, while g_4, g_5 and g_6 inserted close to each other.

Epimeral region. Apodemata, *apo. 1, 2* and *3*, developed for their full lengths, whereas *apo. sj* and *apo. 4* interrupted in the middle. Sternal keel partly developed, crossing *apo. 2* and *3*, being absent on the other parts. The surface structure of the ventrosejugal region, chiefly on the median portion, showing a lot of fine, transverse wrinkles. Setal formula of epimerata: (3–1–3–3). Epimeral setae consist of long and short setae; *1a, 1c, 2a, 3a* and *4b* far shorter than the remainder; *3b* inserted almost on *apo. 3* or a little anterior to it. The posterolateral corner of *ep. 3* extends to form a marked triangular projection between legs II and III on each side.

Tarsi of legs. Tarsus I (Fig. 2): *u* and *pv* short and broad; *tc* with fine, flagelliform curled tip; *ft* the thickest setae on tarsus I and suddenly tapering into a fine tip; *ft'* distinctly stronger and longer than *ft''*; ω_1 beciliform and bent distally, being situated between *ft'* and *ft''*; ω_2 shorter than ω_1, being inserted just behind *tc*. Tarsus II: *u* and *p* are of the same shape, being much more broader than *u* as well as *pv* on tarsus I; *tc, ft* and *pv* as those of tarsus I; *ft'* and *ft''* not differing in size from each other. Tarsus III; *u, p* and *pv* as broad as those of tarsus II; *tc* have also the same shape; *ft'* and *ft''* differ in length as well as in thickness as is the case in tarsus I, but *ft''* is larger than *ft'* (the reverse condition of tarsus I). Tarsus IV (Fig. 1): *u, p* and *pv* as those of tarsus II and III; seta *s* which is absent on the legs I–III appears ventrally between *u* and *pv*, being shaped like the latter; *tc'* longer than *tc''*; *ft'* and *ft''* largely different from each other: *ft''* longer and far thicker than *ft'*.

Remarks. The *Malaconothrus*-species hitherto known contain many *species dubiae* which were described unsatisfactorily. The present new species is, however, apparently different from any of the others in the following combination of characters:

1) The position of the notogastral setae c_p which are situated inside the lateral margin of notogaster.
2) The setae ps_1 strongly curved inward.
3) The long lamellar setae extending beyond the tip of rostrum.
4) The position of epimeral setae *3b* which are closer to *apo. 3* than to *3c*.
5) Six pairs of genital setae.
6) The notogastral setae h_1 and f_2 located on the same transverse plane.
7) The lateral projections of propodosoma conspicuously developed.

REFERENCES

Balogh, J. 1962 Nat. Malg., **13**, 121.
Hammen, L. van der 1959 Zool. Verh., No. 40, 1.
Hammer, M. 1958 Biol. Skr. Dan. Vid. Selsk., **10** (1), 1.
Knülle, W. 1957 Mitt. Zool. Mus. Berlin, **33** (1), 97.